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SILICA GLASS DOPED WITH BISMUTH, ITS PRODUCTION, OPTICAL FIBER USING ITS GLASS, AND OPTICAL AMPLIFIER

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Abstract of JP11029334

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PROBLEM TO BE SOLVED: To obtain an optical fiber capable of amplification in a lower disperse region by using a silica glass provided with uniformly dispersed zeolite materials therein each formed of unit cells whose central sites each doped with bismuth to be clustered. SOLUTION: This silica glass for the optical fiber is obtained by the fotlowing: forming a zeolite doped with bismuth by miding a zeolite with an aqueous solution of bismuth nitrite, stirring the mixture at room temperatures for a prodetermined time, and subjecting it to filtration and dehydration; adjusting an acticity of an aqueous solution of silicon a looholate such as tetraethyl orthosificate and mixing this solution with an aqueous solution containing silica particles obtained by mixing silicon alcoholate, ethanol, and ammonium in the ratio of 1:1 in terms of SiO2; blending this resultant mixture with an equeous solution of the zeolite doped with blanuth adjusted to a predetermined concentration so as to form a get; and subjecting the get to dehydration, temporary bake, and burning, thus obtaining the silica glass with clustered blamuth in the central sites of the unit cells forming a zeolite material.

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